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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,825	06/26/2006	Masakatsu Urairi	UNI79.070APC	3951

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EXAMINER

EVANS, GEOFFREY S

ART UNIT	PAPER NUMBER
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1725

NOTIFICATION DATE	DELIVERY MODE
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09/27/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
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Office Action Summary

Application No.

10/584,825

Applicant(s)

URAIRI ET AL.

Examiner

Geoffrey S. Evans

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20060626</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 1725

DETAILED ACTION

1. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1 the meaning of "ultrasonic" is unclear in this context. Perhaps "ultraviolet" was meant instead? Claims 2-5,8 and 9 are rejected solely because they depend upon claim 1. In claim 6 it is unclear how the etching rate can be a scalar. Please note that all of the language in brackets is now deleted from claim 6. Claim 7 is rejected as indefinite solely because it depends from claim 6.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1725

4. Claims 1-11,13-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akazawa in Japan Patent No. 2002-338,911 in view of Hammann et al. in U.S. Patent No. 6,811,888. Akazawa discloses a protective sheet with an associated adhesive layer for processing a semiconductor wafer with the protective sheet made of an aromatic polymer, i.e. polyimide (see paragraph 14). Hammann et al. teaches that a layer of polyimide (see column 2, line 58) can be used with an excimer laser (which is inherently ultraviolet) or an Nd:YAG laser (see column 3, lines 37-40). It would have been obvious to adapt Akazawa in view of Hammann et al. to provide this to use the sheet of Akazawa to protect the workpiece. The density of the base material and the tensile strength of the sheet (see claims 14 and 15) are considered inherent for an aromatic polymer sheet.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akazawa in view of Hammann et al. as applied to claim 10 above, and further in view of Chang et al. in U.S. Patent No. 6,864,459 or De Steur et al. in U.S. patent No. 6,610,960. Chang et al. teaches using a wavelength of 355 nm to laser drill a hole (see column 7, line 2). Alternatively De Steur et al. teaches using a laser beam with a wavelength of 355 nm (see column 6, line 19) to laser drill a hole. It would have been obvious to adapt Akazawa in view of Hammann et al. to provide this to laser drill a hole with this known common wavelength.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koh in U.S. Patent No. 5,493,096 removes the sacrificial coating after laser drilling. Yamamoto et al. in U.S. Patent No. 6,596,968 discloses producing a

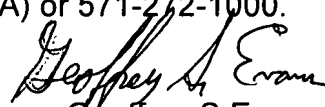
Art Unit: 1725

through hole in an aromatic polyimide film. Chen in U.S. Patent Application Publication No. 2005/0029238 A1 and Nakamura et al. in U.S. Patent Application Publication No. 2005/0242073 are not prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S. Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on (571)-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Geoffrey S Evans
Primary Examiner
Art Unit 1725